

## REMARKS

The Office Action dated July 1, 2008, has been received and carefully noted. The following remarks are submitted as a full and complete response thereto.

Claims 1-40 are currently pending in the application, of which claims 1, 18, and 24 are independent claims. Claims 1-40 are respectfully submitted for consideration.

The Office Action incorporated the previous Office Action by reference, and added about one page of discussion regarding the remarks set forth in the response filed April 9, 2008. Applicants respectfully continue to traverse the rejections. The Office Action's discussion is addressed at the appropriate points in the discussion that follows.

Claims 1-40 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,925,259 of Boroditsky et al. ("Boroditsky") in view of U.S. Patent No. 6,816,650 of Mannette et al. ("Mannette") (the previous Office Action referenced Mannette as "'500 patent"). The previous Office Action acknowledged that Boroditsky fails to disclose or suggest the claim features relating reservation maps. The Office Action cited Mannette to disclose such features. Applicants respectfully traverse this rejection.

Claim 1, upon which claims 2-17 depend, is directed to a communications node for an optical network. The communications node includes a tunable wavelength receiver for receiving optical data from source nodes at a plurality of source wavelengths. The communications node further includes a tunable wavelength transmitter for transmitting optical data to destination nodes at a plurality of destination wavelengths.

The communications node additionally includes a media access controller which schedules transmission to and receipt from a plurality of nodes at a plurality of time-slots and wavelengths according to at least one reservation map.

Claim 18, upon which claims 19-23 depend, is directed to a media access controller for a network. The media access controller includes a reservation map unit which creates the at least one reservation map for reserving time slots and wavelengths for transmitting data to and receiving data from a plurality of nodes, made up of the source nodes and destination nodes, based upon available time slots and wavelengths in the network. The media access controller also includes a demand matrix generating unit for generating a demand matrix based upon the demand data from the plurality of nodes in the network. The reservation map is based upon said demand matrix.

Claim 24, upon which claims 25-40 depend, is directed to a method for communicating optical data on an optical network. The method includes receiving optical data from source nodes at a plurality of source wavelengths at a tunable wavelength receiver. The method also includes transmitting optical data to destination nodes at a plurality of destination wavelengths from a tunable wavelength transmitter. The method further includes controlling the tunable wavelength receiver and the tunable wavelength transmitter, via a media access controller by scheduling transmission to and receipt from a plurality of nodes at a plurality of time-slots and wavelengths according to at least one reservation map.

Applicants respectfully submit that the combination of Boroditsky and Manette fails to disclose or suggest all of the elements of any of the presently pending claims.

Boroditsky generally relates to a high-capacity packet-switched ring network. Boroditsky, at column 2, lines 1-41, describes a node 200 of a network that employs wavelength stacking. The node 200 includes a fast tunable laser 202 that can create a composite packet in contiguous time slots at three different wavelengths. The node 200 can also include a detector 216, such as a photodiode, for extracting data from an unstacked packet from a wavelength demultiplexer 206.

Claim 1 recites “a media access controller which schedules transmission to and receipt from a plurality of nodes at a plurality of time-slots and wavelengths according to at least one reservation map.” Boroditsky fails to disclose or suggest at least this feature of claim 1. The Office Action appears to have admitted that this is the case, and the Office Action has consequently cited Mannette.

Mannette generally relates to an apparatus, method, and system for multimedia access network channel management. Mannette makes reference, at column 21, lines 2-8, to “two lists or maps,” one of which is a “reservation map.”

Mannette, however, fails to disclose or suggest, “a media access controller which schedules transmission to and receipt from a plurality of nodes at a plurality of time-slots and wavelengths according to at least one reservation map.” Although Mannette uses the term “reservation map,” there is nothing in Mannette that suggests that this “reservation map” is used (or even usable) by a media access controller in the scheduling of

transmission to and receipt from a plurality of nodes at a plurality of time-slots and wavelengths. Thus, Mannette cannot remedy the admitted deficiencies of Boroditsky.

In consequence of Mannette's failures to remedy the deficiencies of Boroditsky, the combination of Boroditsky and Mannette fails to disclose or suggest all of the elements of claim 1. Thus, Applicants respectfully request that the rejection of claim 1 be withdrawn.

The present Office Action, at page 2, has asserted that the "reservation map" of Mannette is used by Mannette's Media Access Controller (MAC) 330, shown in Figure 4, to perform medium access control, which the Office Action has interpreted as being "scheduling transmission of [sic] reception between the nodes."

In fact, however, Mannette is silent about such a feature. The entire discussion of MAC 330 in Mannette is confined to the two paragraphs found at column 15, lines 11-37:

For transmission on the HFC network 110, the modulator 375 performs digital quadrature phase shift keying ("QPSK") or QAM modulation on the bit stream from the MAC 330, and may also include a pre-equalization function. After digitally modulating the transmit bit stream, the modulator 365 converts the stream to the analog domain using a digital to analog converter, which is filtered using a low pass filter (LPF) 370 to remove the unwanted harmonic artifacts, and amplified using a variable gain power amplifier (PA) 375. The output of the PA 375 is then sent to a duplex filter 345 that provides an interface to the coax cable or other transmission media.

The processor 310 includes a MAC 330, a host processor 335, and a digital signal processor ("DSP") 340. The MAC 330 is preferably implemented as an ASIC and accepts the recovered bit stream from the demodulator 355, performs error detection and correction on the recovered bit stream, decrypts (if encrypted), and formats the bit stream into blocks for delivery to the host processor (microprocessor) 335. For transmission, the MAC 330

also accepts (and optionally encrypts) data to be transmitted from the host microprocessor 335. Prior to delivering the transmit data to the modulator 365, the MAC 330 adds a cyclic redundant code (CRC) to the transmit data block. Additionally, the MAC 330 sends data to the modulator 365 based on timing information extracted from the recovered bit stream.

As can be seen from the block quotation above, there is no mention of the MAC 330 using the “reservation map” mentioned elsewhere in Mannette, nor even that the MAC 330 is used for scheduling.

It should be readily apparent to any reader that the paragraphs above do not contain any discussion of “a media access controller which schedules transmission to and receipt from a plurality of nodes at a plurality of time-slots and wavelengths according to at least one reservation map,” as recited in claim 1. Instead, the paragraphs simply disclose a Media Access Controller (MAC) without any specifics, such as that it schedules transmissions or receipt of transmissions, or that it does so at a plurality of time slots or wavelengths. Certainly, there is no discussion at all that it does anything “according to at least one reservation map.”

The term “reservation map” arises in Mannette in the following context, found at column 20, line 66, to column 21, line 11:

Also as indicated above, for dynamic (reserved) services in the preferred embodiment, a channel reservation process occurs prior to and apart from a channel activation (or channel use) process. As a consequence, two lists or maps are maintained in a database in the present invention: first, a flow (or reservation) map, indicating which CTM 300 or CM 300A has reserved which channel for upstream transmission; and second, a transmit map, indicating which CTM 300 or CM 300A has activity (transmission) on which channel for upstream transmission. As a consequence, when a modification is made to the flow (reservation) map, a corresponding change

is automatically made in the transmit map, such as to transfer a reserved service to another channel.

As can be seen above, in Mannette two lists (or maps) are maintained in a database. One map indicates reservation by channel. The second map shows when activity for upstream transmission takes place. Thus, even assuming everything else about the claim feature was disclosed (not admitted), the reservation map would not be taught as being used for receipt of transmission from a plurality of nodes. In fact, there would be no hint or suggestion of such a concept that could be taken from the cited art.

In short, there is no way that the disclosure of Mannette could disclose or suggest, “a media access controller which schedules transmission to and receipt from a plurality of nodes at a plurality of time-slots and wavelengths according to at least one reservation map,” as recited in claim 1.

Independent claims 18 and 24 each have their own scope. Claims 18 and 24, however, recite at least some similar features to those discussed above with respect to claim 1, and claims 18 and 24 were not separately rejected. Thus, Applicants respectfully request that the rejection of claims 18 and 24 be withdrawn at least for similar reasons to those upon which the rejection of claim 1 should be withdrawn.

Claims 2-17, 19-23, and 25-40 depend respectively from, and further limit, claims 1, 18, and 24. Thus, each of claims 2-17, 19-23, and 25-40 recites subject matter that is neither disclosed nor suggested in the cited art. It is, therefore, respectfully requested that the rejection of claims 2-17, 19-23, and 25-40 be withdrawn as well.



Furthermore, the rejection is not a proper *prima facie* rejection for obviousness, because there is no teaching, motivation, suggestion, or other reason that one of ordinary skill in the art would have combined the references to arrive at what is recited in the claims. The proposed motivation to combine was, in the previous Office Action: “One skilled in the art would have been motivated to MAC protocol to use the list of maps in ‘500 patent for network channel management.” (all errors in original) This proposed motivation to combine is erroneous.

Mannette, at column 21, lines 2-8, states: “As a consequence, two lists or maps are maintained in a database in the present invention: first, a flow (or reservation) map, indicating which CTM 300 or CM 300A has reserved which channel for upstream transmission; and second, a transmit map, indicating which CTM 300 or CM 300A has activity (transmission) on which channel for upstream transmission.” Thus, Mannette does make reference to the use of something that Mannette refers to as a reservation map. Nevertheless, since the sentence begins with “As a consequence,” it is important to look to the previous sentence, to determine why Mannette uses this “reservation map.”

The previous sentence of Mannette states, “Also as indicated above, for dynamic (reserved) services in the preferred embodiment, a channel reservation process occurs prior to and apart from a channel activation (or channel use) process.” This provides the context for which Mannette suggests its “reservation map.” Mannette does not indicate its “reservation map” generally or even broadly for “network channel management” or

“to MAC protocol” as stated in the previous Office Action. Accordingly, it is apparent that the previous Office Action mischaracterized the disclosure of Mannette.

Furthermore, there is no indication that Boroditsky has or needs, “a channel reservation process [that] occurs prior to and apart from a channel activation (or channel use) process” or even “dynamic (reserved) services,” which is what Mannette’s “reservation map” corresponds to.

Consequently, the proposed motivation is (fairly transparently) improper hindsight reconstruction. The Office Action began with the template of the claims and tried to reconstruct the invention within that template. To protect against such invalid and inappropriate hindsight reconstruction, the courts have ruled that references cannot be selected, and selected elements from selected references cannot be combined, without some suggestion, motivation, teaching, or other well-articulated reason that would render obvious that selection and that combination. *See, e.g., Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1385, 58 USPQ2d 1286, 1293 (Fed. Cir. 2001) (“In holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have led a person of ordinary skill in the art to select the references and combine them in the way that would produce the claimed invention.”); and *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1124-25 (Fed. Cir. 2000) (“a showing of a suggestion, teaching, or motivation to combine the prior art references is an ‘essential component of an obviousness holding’”).



The fact that this is simply an improper hindsight reconstruction taking advantage of the present application's disclosure can also be seen by looking to the differences between the cited references. Boroditsky relates to a high-capacity packet-switched ring network. In contrast, Mannette generally relates to the management of a multimedia access network channel. Accordingly, one of ordinary skill in the art would not see any particular reason to combine the teachings of the references, given the different technological problems and solutions they are directed to, in the absence of the prompting of the present application. Since this is the case, the presently pending claims are non-obvious with respect to the cited references, since proper motivation to combine cannot come from the application under examination. Accordingly, Applicants respectfully request withdrawal of the rejection for this additional reason.

The present Office Action further asserted that a motivation to perform a "single search" would be the motivation to combine Mannette with Boroditsky. The "single search," however is only relevant to transmission and not to reception of transmission. Thus, even if the "single search" provided a proper motivation to combine (not admitted), such a motivation would not lead one of ordinary skill in the art to practice the invention as recited in claim 1.

Furthermore, the "single search" feature of Mannette is simply a reason to use Mannette, not a reason to combine Mannette with Boroditsky. There is simply no evidence of record to suggest that Boroditsky has some sort of deficiency that Mannette's "single search" would remedy a deficiency or otherwise be desirable within Boroditsky's

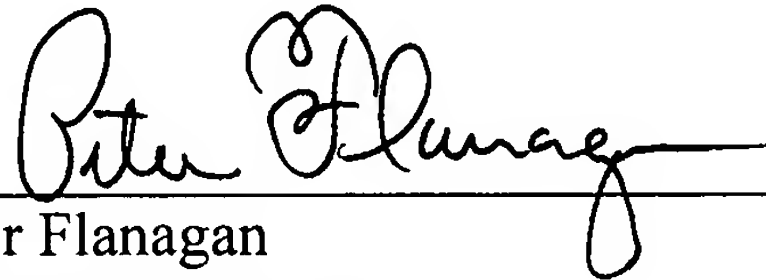
system. The fact that Mannette claims to be valuable on its own is not motivation to combine Mannette arbitrarily with a system of another reference. Thus, it appears that no proper motivation to combine has been presented. Thus, Applicants continue to respectfully traverse the rejection as erroneous.

For the reasons set forth above, it is respectfully submitted that each of claims 1-40 recites subject matter that is neither disclosed nor suggested in the cited art. It is, therefore, respectfully requested that all of claims 1-40 be allowed, and that this application be passed to issuance.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, Applicants' undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Peter Flanagan", written over a horizontal line.

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